UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,003	12/20/2001	Robert Edward Weinstein	STL10375/40046.181USU1	2375

23552   7590   09/30/2003

MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER
RODRIGUEZ, GLENDA P

ART UNIT	PAPER NUMBER
2697	

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _20 December 2001_ .

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-30_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _10-14, 23-25 and 30_ is/are allowed.

6) ☒ Claim(s) _1-9, 15-22 and 26-29_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _4_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madsen et al. (US Patent No. 5, 600, 500) in view of Korenari et al (US Patent No. 6, 157, 507). Madsen et al. teaches a method for estimating bit error rate for the media in a disc drive comprising:

> Writing data to the disc media beginning at an initial time interval (Pat. No. 5, 600, 500; See Fig. 3);
>
> Reading the data recorded on the disc media at specified interval points during the time period (Pat. No. 5, 600, 500; Col. 8, Lines 4-8. It is obvious to a person of ordinary skill in the art to know that reading data takes a specific predetermined time.);
>
> Computing a bit error rate value for the disc media at each specified interval point (Pat. No. 5, 600, 500; Col. 8, Lines 23-25);

Madsen et al. fail to teach extrapolating the bit error rate for disc media to create a graph representative of the bit error rate over the predetermined time period. However, this feature is well known in the art as disclosed by Korenari et al., wherein it teaches graphs that compare BER vs. SN (Pat. No. 6, 157, 507; Fig. 3 and Col. 3, Line 65 to Col. 4, Line 3 and

Col. 4, Line 37-51. SN depends on various P values, wherein the P values depend on time difference that are measured.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Madsen et al.'s invention in order for the medium to graph the bit error rate to evaluate the performance of the MR head (Pat. 6, 157, 507; See Abstract).

3. Claims 2, 3, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madsen et al. (US Patent No. 5, 600, 500) and Korenari et al (US Patent No. 6, 157, 507) as applied to claims 1 and 15 above, and further in view of Takeuchi (US Patent No. 6, 191, 905). Madsen and Korenari teach all the limitations of Claims 1 and 15, respectively. Madsen and Korenari fail to teach the computing a raw error value and a bit error rate at each specified interval. However, this feature is well known in the art as disclosed by Takeuchi, wherein it teaches that it measures the error and then calculates an average error rate at a specific measurement interval (Pat. No. 6, 191, 905; Col. 1, Line 66 to Col. 2, Line 7 and Col. 3, Lines 55-65). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Madsen et al.'s invention in order to reduce the error rate (Pat. No. 6, 191, 905; Col. 1, Lines 51-53).

4. Claims 4-9 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madsen et al. (US Patent No. 5, 600, 500) and Korenari et al. (US Patent No. 6, 157, 507) as applied to claim 1 and 15 above, and further in view of Dovek et al. (US Patent No. 5, 625, 506). Madsen and Korenari teach all the limitations of Claim 1 and 15, respectively. Madsen et al. and Korenari et al. fail to teach wherein it compares the bit error rate to a threshold and if the value is larger than the threshold at a predetermined time. However,

this feature is well known in the art as disclosed by Dovek et al., wherein it teaches the comparison of the bit error rate to a threshold and and if the value is larger than the threshold (Pat. No. 5, 625, 506; See Fig. 6. It is known in the art, that whenever a comparison is performed, it has to be done after a certain amount of time in order to prevent too many errors to occur in the disk drive.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Madsen's invention in order to compensate the performance between head/disk interaction (Pat. No. 5, 625, 506; See Abstract).

Regarding Claims 5, 8, 19 and 21, Madsen et al., Korenari et al. and Dovek et al. teach all the limitations of Claims 4 and 18, respectively. Dovek et al. also teach that the predetermined time period of the drive may begin at the time of the test and may end at a predetermined time (Pat. No. 5, 625, 506; Col. 4, Line 63 to Col. 5, Line 12. It is known in the art that a test certification takes a predetermined time and could end at that predetermined time if the drive is evaluated as a filing drive. Dovek et al. teaches that if the bit errors surpass a given threshold, the drive is replaced.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Madsen's invention in order to compensate the performance between head/disk interaction (Pat. No. 5, 625, 506; See Abstract).

Regarding Claims 6, 9, 20 and 22, Madsen et al., Korenari and Dovek et al. teach all the limitations of Claims 5, 8, 19 and 21, respectively. Madsen et al. teach the steps of writing the data, reading the data and computing a bit error rate. Madsen et al. fail to teach extrapolating the bit error rate for disc media to create a graph representative of the bit error

rate over the predetermined time period. However, this feature is well known in the art as disclosed by Korenari et al., wherein it teaches graphs that compare BER vs. SN (Pat. No. 6, 157, 507; Fig. 3 and Col. 3, Line 65 to Col. 4, Line 3 and Col. 4, Line 37-51. SN depends on various P values, wherein the P values depend on time difference that are measured.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Madsen et al.'s invention in order for the medium to graph the bit error rate to evaluate the performance of the MR head (Pat. 6, 157, 507; See Abstract).

Regarding Claim 7, Madsen et al., Korenari and Dovek et al. teach all the limitations of Claim 6. Dovek et al. further teach the removal of the disk drive (Pat. No. 5, 625, 506; Col. 5, Lines 9-12.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Madsen's invention in order to compensate the performance between head/disk interaction (Pat. No. 5, 625, 506; See Abstract).

5. Claim 26 and 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dovek et al. (US Patent No. 5, 625, 506).

Regarding Claim 26, Dovek et al. teach a disc drive having a data storage disc rotatably mounted to a base plate and an actuator arm mounted on the bas plate adjacent the disc (See Figs. 1 and 2), the disc drive comprising:

A transducer attached to the actuator arm operable to write data to and thereafter read data stored on a recordable media of the disc over a predetermined time period divided into a plurality of time intervals (See Fig. 1, Element 28, which teaches the use of transducers. It is known in the art that transducer guide read and write elements used for

reading and writing. It is also known in the art that the art that reading

data is done in a predetermined amount of time.);

Means for determining whether the recordable media will be

inoperable to store data at a predetermined time by measuring bit error

rates for the media at specified interval points during the

predetermined time period and estimating therefrom a bit error rate for

the media at a predetermined time (See Fig. 6 and Col. 4, Line 63 to

Col. 5, Line 12. Dovek et al. teach a testing method done when

reading recorded data to measure and compare the error rate and

determine if the medium is not a failing medium. It is also known in

the art that these procedures are done at specific time intervals.)

Regarding Claim 27, Dovek et al. teach all the limitations of Claim 26. Dovek et al. also

teaches that the predetermined time period of the drive may begin at the time of the test and

may end at a predetermined time (Pat. No. 5, 625, 506; Col. 4, Line 63 to Col. 5, Line 12. It

is known in the art that a test certification takes a predetermined time and could end at that

predetermined time if the drive is evaluated as a filing drive. Dovek et al. teaches that if the

bit errors surpass a given threshold, the drive is replaced.).

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dovek et al. (US

Patent No. 5, 625, 506) as applied to claim 26 above, and further in view of Takeuchi

(US Patent No. 6, 191, 905). Dovek et al. teach all the limitations of Claim 26. Dovek et

al. fail to teach the computing a raw error value and a bit error rate at each specified

interval. However, this feature is well known in the art as disclosed by Takeuchi,

wherein it teaches that it measures the error and then calculates an average bit error rate at a specific measurement interval (Pat. No. 6, 191, 905; Col. 1, Line 66 to Col. 2, Line 7 and Col. 3, Lines 55-65). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Madsen et al.'s invention in order to reduce the error rate (Pat. No. 6, 191, 905; Col. 1, Lines 51-53).

7. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dovek et al. (US Patent No. 5, 625, 506) and Takeuchi (US Patent No. 6, 191, 905) as applied to claim 28 above, and further in view of Korenari et al. (US Patent No. 6, 157, 507). Dovek et al. and Takeuchi teach all the limitations of Claim 28. Dovek et al. fail to teach extrapolating the bit error rate for disc media to create a graph representative of the bit error rate over the predetermined time period. However, this feature is well known in the art as disclosed by Korenari et al., wherein it teaches graphs that compare BER vs. SN (Pat. No. 6, 157, 507; Fig. 3 and Col. 3, Line 65 to Col. 4, Line 3 and Col. 4, Line 37-51. SN depends on various P values, wherein the P values depend on time difference that are measured.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Madsen et al.'s invention in order for the medium to graph the bit error rate to evaluate the performance of the MR head (Pat. 6, 157, 507; See Abstract).

Allowable Subject Matter

8. Claims 10-14, 23-25 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (703)305-8411. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (703)308-4825. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9000.
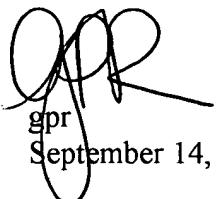
gpr
September 14, 2003.

DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600